

ABSTRACT

“A STUDY ON MOLECULAR EXPRESSION OF KRAS MUTATION IN COLORECTAL CARCINOMA AND ITS CORRELATION WITH CLINICOPATHOLOGICAL FINDINGS IN A TERTIARY CARE HOSPITAL”

BACKGROUND:

Colorectal carcinoma is one of the commonest cancer worldwide. Its development is a multistep process involving wide variety of genetic alterations of which KRAS mutation has pivotal role in increased proliferation of tumor cells and decreased apoptosis. The development of molecular techniques has contributed to better understanding of carcinogenesis.

AIMS AND OBJECTIVES:

1. To evaluate the expression of K-RAS mutation in colorectal carcinoma
2. To study its correlation with respect to age, histological findings and staging of Carcinoma

MATERIALS AND METHODS:

This is a 2 years prospective and retrospective study conducted in Institute of Pathology, Madras Medical College and Rajiv Gandhi Govt. hospital, Chennai on patients diagnosed as colorectal carcinoma. Sample size of 30 cases reported in biopsy as colorectal carcinoma was taken and Formalin Fixed Paraffin Embedded Blocks of those cases were subjected to molecular KRAS mutational analysis at Codon12 and codon13 of Exon 2 by

means of Polymerase chain reaction, followed by sanger sequencing. KRAS expression was then correlated with clinicopathological variables.

RESULTS:

Out of 30 cases, 27 were of conventional adenocarcinoma and 3 were mucinous carcinoma. Male: Female ratio-1.3:1. Histologically most of tumors were moderately differentiated grade. KRAS mutation was seen in 16.7%(5 cases). All KRAS mutated cases were >50 years of age. There is no significant correlation between KRAS expression with any of the clinicopathological parameters.

CONCLUSION:

KRAS mutations are predictive of resistance to anti-EGFR targeted therapies, necessitating its analysis for treatment.

KEY WORDS:

Colorectal Carcinoma, KRAS mutation, Polymerase chain reaction, Anti-EGFR therapy.